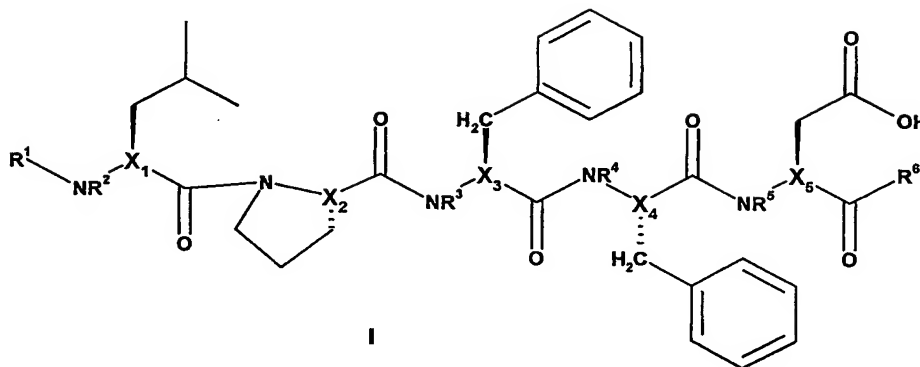


Claims

1. A compound of the general Formula I:



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wherein R^1 is selected from H, C_2 - C_6 acyl and C_1 - C_6 alkyl;

R^2 , R^3 , R^4 and R^5 are independently selected from H and C_1 - C_6 alkyl;

R^6 is selected from OH and NR^7R^8 , wherein R^7 and R^8 are independently selected from H and C_1 - C_6 alkyl;

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X_1 , X_2 , X_3 , X_4 and X_5 are independently selected from CR^9 or N wherein R^9 is selected from H and C_1 - C_6 alkyl and with the condition that at least one among X_1 , X_2 , X_3 , X_4 and X_5 is N; as well as any chiral derivative thereof.

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2. A compound according to claim 1, wherein R^1 is C_2 - C_6 acyl and R^6 is NR^7R^8 wherein R^7 and R^8 are independently selected from H and C_1 - C_6 alkyl.

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3. A compound according to claims 1 or 2, wherein X_1 , X_2 , X_3 , X_4 and X_5 are independently selected from CH and N and with the condition that at least one among X_1 , X_2 , X_3 , X_4 and X_5 is N.

4. A compound according to any claims from 1 to 3, wherein R^2 , R^3 , R^4 and R^5 are H and R^1 is $-C(O)CH_3$ and R^6 is NH_2 ; wherein X_1 , X_2 , X_3 , X_4 and X_5 are

independently selected from CH and N and with the condition that at least one among X₁, X₂, X₃, X₄ and X₅ is N.

5. A compound according to any claims from 1 to 4, wherein X₂ is N.

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6. A compound according to any claims from 1 to 5, wherein X₃ is N.

7. A compound according to any claims from 1 to 6 selected from the following group:

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Ac-L-P-F^a-F-D-NH₂;
Ac-L-P^a-F-F-D-NH₂; and
Ac-L-P^a-F^a-F-D-NH₂.

8. A compound according to any claims from 1 to 7 for use as a medicament.

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9. A pharmaceutical composition comprising a compound according to any one of claims 1 to 7 and a pharmaceutically acceptable excipient, diluent or carrier.

10. Use of a compound according to any one of claims 1 to 7 for the manufacture of a medicament for the treatment or prevention of a disease or condition selected from Alzheimer's disease, Dementia pugilistica (including head trauma), Hereditary Cerebral Haemorrhage with amyloidosis of the Dutch type (HCHWA-D) and vascular dementia with amyloid angiopathy.

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11. Use according to claim 10, wherein the disease is Alzheimer's disease.

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12. Use of a compound according to any one of claims 1 to 7, for the preparation of a medicament for the treatment of a disease associated with abnormal protein folding into amyloid and amyloid-like deposits.

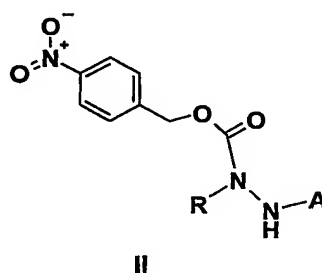
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13. A process for the preparation of an aza -peptide obtainable by a process comprising the steps of:

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- a. Reacting an aza-amino acid building block of Formula (II) with an amino acid, an aza-amino acid, a peptide, an aza-peptide or an azatide to form a aza-peptoidic bond through aza-peptide coupling:

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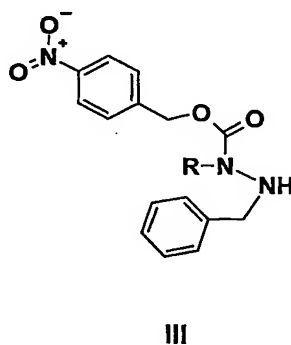
wherein R is selected from H and C₁-C₆ alkyl;

A is any functional group of an amino acid;

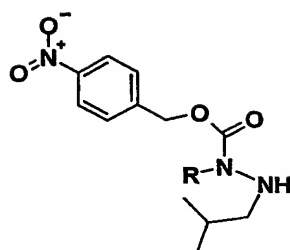
10 R and A can form a C₃-C₆-heterocycloalkyl ring.

- b. Removing the para-nitro carbobenzyloxy group.

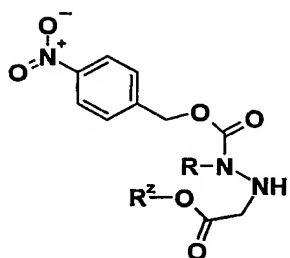
14. A process according to claim 13 wherein at least one aza-amino acid building
15 block in step a) of said library is selected from Formulae III, IV, V and VI:



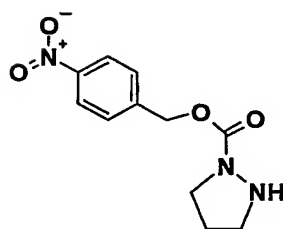
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IV



V



VI

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wherein R is selected from H and C₁-C₆ alkyl;
 R^Z is selected from -CH₂-CH=CH₂ and -tert-butyl.

15. A process according to claim 14 wherein R is H.

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16. A process according to claim 13 or 15 for the preparation of an aza-peptide of a total sequence from 2 to 10 peptoid units in length.

17. A process according to any claims from 13 to 16 for the preparation of an aza-peptide of a total sequence from 2 to 5 units peptoid units in length.
18. A process according to any claims from 13 to 16 for the preparation of an aza-peptide having between 2 to 10 aza-amino acids.
19. A process according to any claims from 13 to 18 for the preparation of an aza-peptide having between 2 to 5 aza-amino acids.
20. A process according to any claims from 13 to 19 for the preparation of an aza-peptide of Formula I.
21. A synthetic aza-peptide building block having a Formula selected from Formulae III, IV, V and VI.
22. A synthetic aza-peptide building block of claim 21 wherein R is H.